

Prior Art FX Settlement Process		
Trade Date	Settlement Date	Reconciliation Date
<ul style="list-style-type: none"> <li>Parties transact a series of transactions in various currency pairs</li> <li>Parties send confirmations of each trade MT300</li> <li>Parties match MT300s to create a confirmed trade</li> <li>Parties instruct payment of sold currency leg for each trade</li> <li>Parties pre-advice receipt of bought currency leg for each trade</li> </ul>	<ul style="list-style-type: none"> <li>Branch or nostro constructs payment queue</li> <li>Branch or nostro releases payments as liquidity in local payment system allows</li> <li>Branch or nostro sends MT900 to confirm payments</li> <li>Branch or nostro sends MT910 to confirm receipts</li> <li>Branch or nostro sends MT950 daily statement of account activity</li> </ul>	<ul style="list-style-type: none"> <li>MT950s from all branches and nostros reconciled to match payment and counterpayment (receipt) settlement of transactions</li> <li>Exception report of failed settlements generated</li> <li>Failed settlements queried with counterparties</li> <li>Decisions on default/ payment suspension taken after investigation</li> <li>Payments at branches and nostros cancelled on a "best efforts" basis</li> </ul>

FIG. 1



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Risk
Payment Risk = The risk of loss should an expected payment not be received in a timely manner
Cross-Border Settlement Risk = The Payment Risk arising in settlement of foreign exchange trades where payment must be made in one currency in expectation of counterpayment being received in another currency
Liquidity Risk = The direct and contingent costs or penalty associated with unanticipated receipt shortfalls
Systematic Risk = Risk associated with the general health or structure of the financial system as a result of inability to cope with a financial default or liquidity shock

FIG. 2

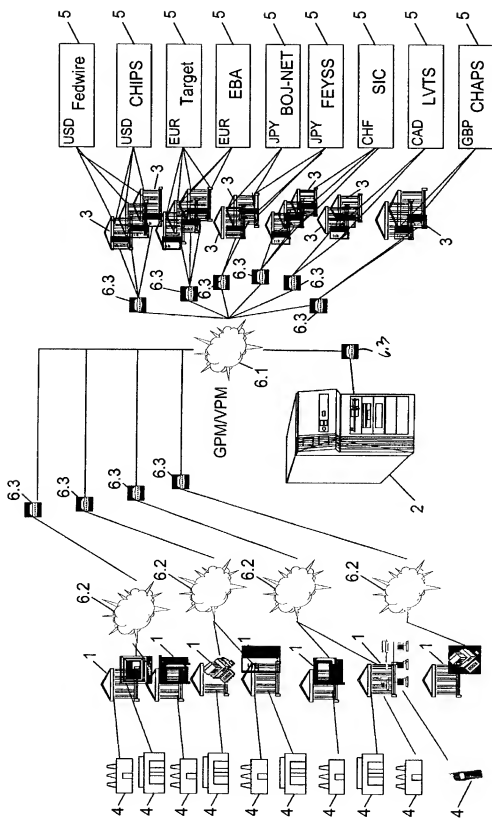
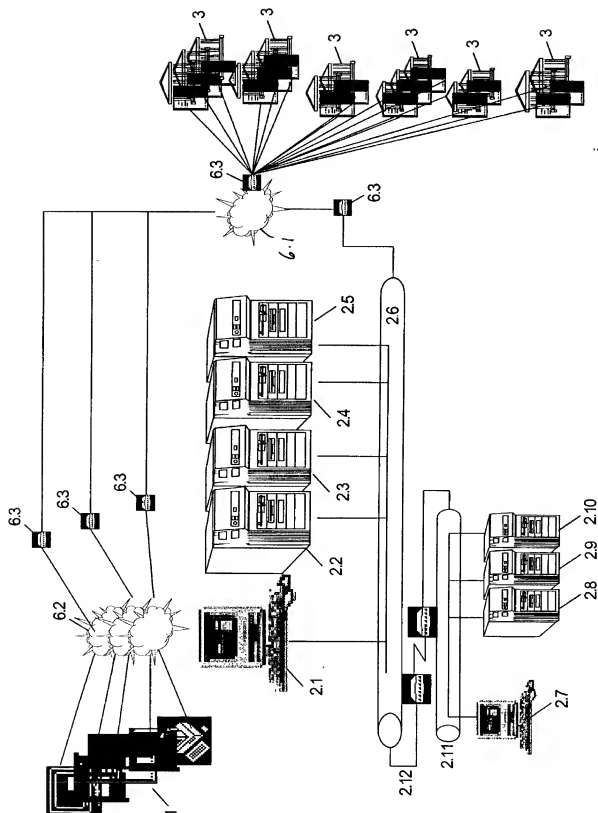


FIG. 3



# GPM Access Security

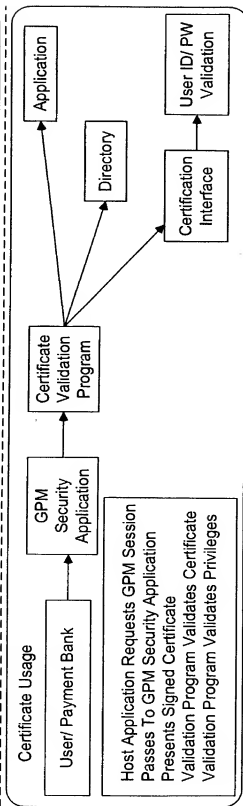
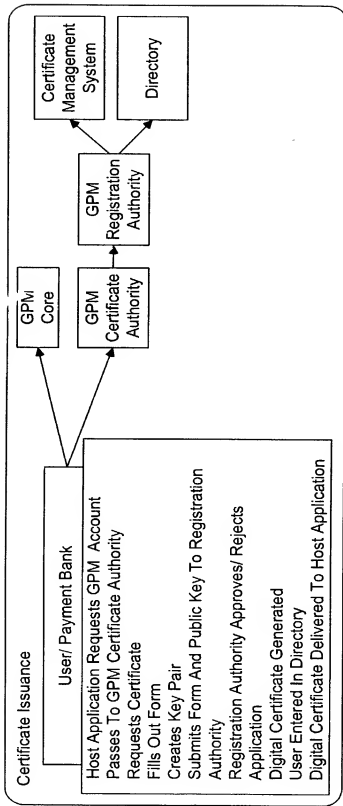


FIG. 5



GPM FX Settlement Process		
Trade Date	Settlement Date	Reconciliation Date
<ul style="list-style-type: none"> <li>• Parties transact a series of transactions in various currency pairs</li> <li>• Parties send confirmations of each trade MT300</li> <li>• Parties match MT300s to create a confirmed trade</li> <li>• Parties instruct payment of sold currency leg for each trade to Payment Bank</li> <li>• Parties pre-advice receipt of bought currency leg for each trade</li> <li>• Parties advise GPM Payment Banks of Risk Parameters</li> </ul>	<ul style="list-style-type: none"> <li>• Payment Bank constructs payment queue</li> <li>• Payment Bank Host Application releases payments through GPM Filter Process</li> <li>• Payment Bank sends MT900 to confirm payments and MT910 to confirm receipts</li> <li>• Payment Bank Host App. notifies sustained imbalance as observed</li> <li>• Exception queries, Suspend Process and liquidity management decisions taken intraday</li> <li>• Payment Bank sends MT950 daily statement of account activity</li> </ul>	<ul style="list-style-type: none"> <li>• MT950s from all branches and nostros reconciled to determine settlement of transactions</li> <li>• Follow-up on individual failed settlements / defaults</li> </ul>

FIG. 6

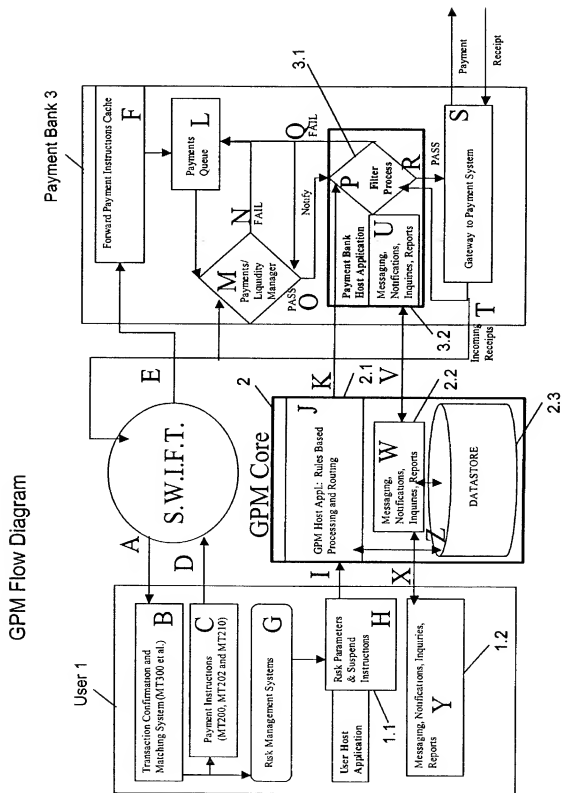


FIG. 7

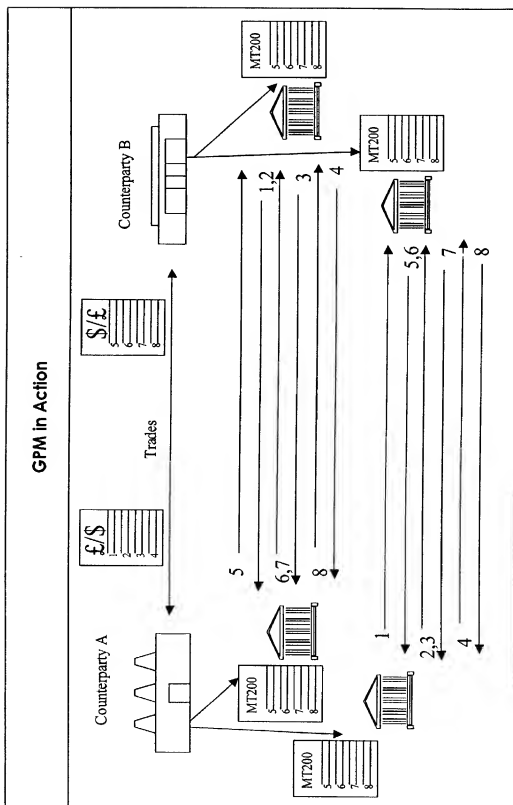


FIG. 8



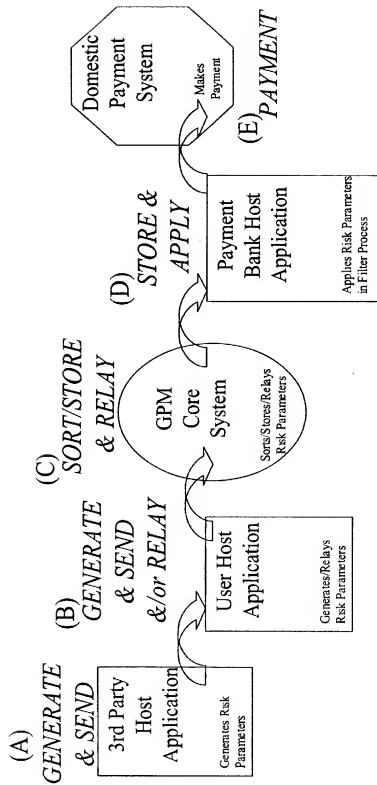
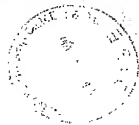


FIG. 9A1

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# Risk Parameter Instruction Fields

Status	Tag	Field Name	Content/Options	No
M	52a	USER	44242b[3b]	1
O	50	THIRD PARTY (Ordering Customer)	44242b[3b]	2
M	53a	PAYMENT BANK (Sender's Correspondent)	44242b[3b]	3
----	----	----	----	----
M	59	COUNTERPARTY (Beneficiary Customer)	44242b[3b]	4
----	----	----	----	----
M	32A	CLEAN PAYMENT LIMIT [Value Date] Currency Code Amount	[6n] 3a 15d	5
----	----	----	----	----
O	<XX>	PAYMENT TYPE	<2a3n[4a]>	6
----	----	----	----	----
<b>USER</b> Definition: The Unique Identifier (UID) of the User institution initiating the instruction on behalf of itself or a Third Party. Format: 44242b[3b]				
<b>THIRD PARTY</b> Definition: The UID of the Third Party initiating the instruction to the User. Format: 44242b[3b]				
<b>PAYMENT BANK</b> Definition: The BIC code of the Payment Bank Format: 44242b[3b]				
<b>COUNTERPARTY</b> Definition: The UID of the Counterparty/Payee on outgoing payments instructions. Format: 44242b[3b] Multiple instances of this field are permitted.				
<b>CLEAN PAYMENT LIMIT</b> Definition: [Value date] (optional), currency code and amount of Clean Payment Limit. [6n] date (YYMMDD) 3a currency code 15d amount				
<b>PAYMENT TYPE</b> Definition: Description(s) of Payment Types for Filter Process (e.g. "Transfer", "Credit Transfer", "Debit Transfer", "Direct Debit", "Standing Order", "Recurring Payment", "Other"). Where this optional field is left blank, the GPV Filter Process will apply to all payments made on behalf of a referenced User/3 <sup>rd</sup> Party to a referenced Counterparty. Multiple instances of this field are permitted.				

FIG. 9A2

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Risk Parameters
COUNTERPARTY: A defined entity (or aggregation of entities) recognisable as Payee(s) or Payor(s) on a payment message through reference to industry standard identifiers used in payments messaging.
CLEAN PAYMENT LIMIT: Value threshold on payments from a User/3rd Party as "Payor" in respect of a designated Counterparty as "Payee". Acts as a debit cap on payments vis-à-vis a Counterparty.
PAYMENT TYPE: Given payment type descriptors (specified in payments message standards), allows selection of payment types for subjecting to the Filter Process.

FIG. 9B

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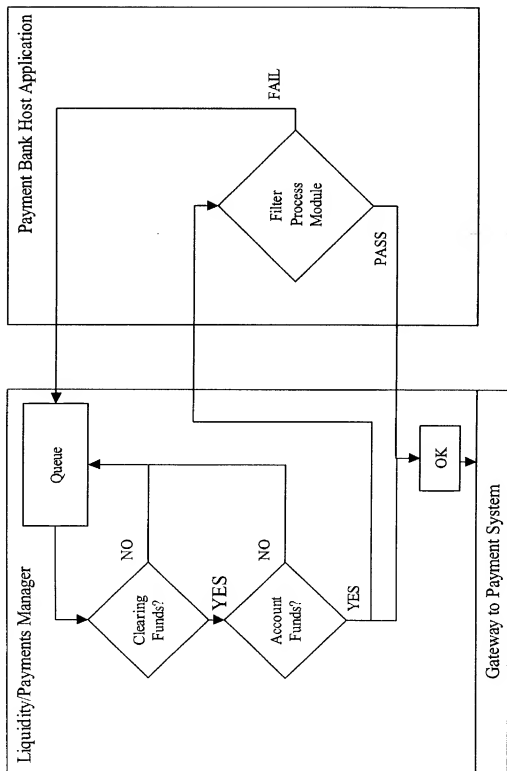
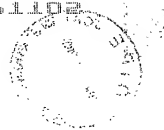


FIG. 9C

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GPM Filter Process	
Step A: Identify Payor	
Step B: Assess whether Payor is GPM User/ 3rd Party If NO then PASS payment instruction; if YES then	
Step C: Identify Payee and/or Intermediaries	
Step D: Identify whether each Payee/ Intermediary is a GPM Counterparty of the User/ 3rd Party If NO then PASS payment instruction; if YES then	
For each Counterparty	
Step E1: Check whether Override instructions for Counterparty/Transaction Reference Number If YES then PASS payment + reduce Available Balance & store record of transaction; If NO then	
Step E2: Check whether Counterparty has been Suspended If YES then FAIL payment instruction + NOTIFY & store a temporary record of the transaction; If NO then	
Step F: Identify Payment Type	
Step G: Assess whether Payment Type is selected for GPM Filter Process If NO then PASS payment instruction; if YES then	
Step H: Identify Payment Amount	
Step I: Calculate Available Balance	
Step J: Assess payment amount against Available Balance if payment amount is less than Available Balance then PASS payment instruction; if payment amount is more than Available Balance then FAIL payment instruction + NOTIFY & store a temporary record of the transaction;	
Step K: Reduce Available Balance for Counterparty by Payment Amount & store a temporary record of the transaction	

FIG. 9D1

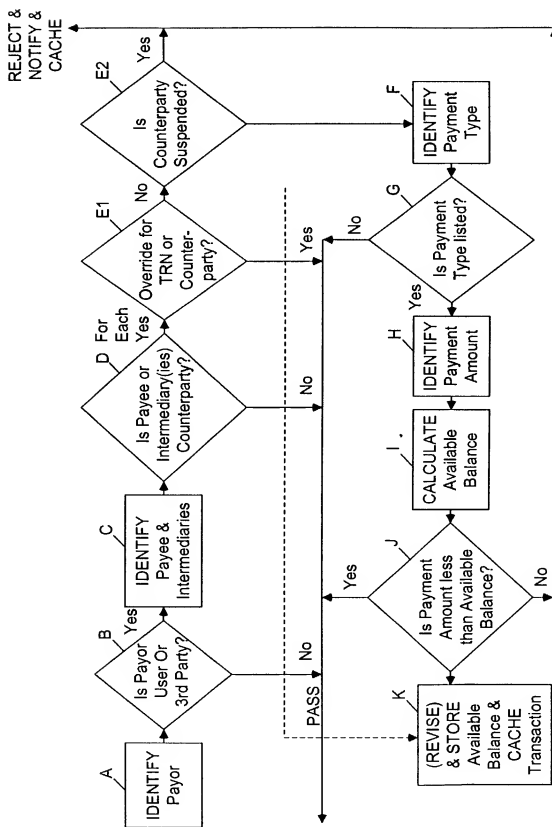
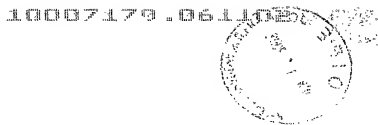


FIG. 9D2



Step I: Calculating Available Balance	
Step I.1: Identify User/3rd Party	
Step I.2: Identify Counterparty	
Step I.3: Identify last stored Available Balance 3a: Available Balance will be Clean Payment Limit for initial processing 3b: Available Balance last stored by Process Filter 3c: Where Clean Payment Limit is amended intraday, the difference between the new CPL and the old CPL will be added to the stored Available Balance to either increase or decrease the Available Balance accordingly	
Step I.4: Generate Inquiry to bank payment/account systems for incoming payments messages specifying Counterparty/ Payee as a "Payor" and specifying User/3rd Party as "Payee" since last timestamp	
Step I.5: IF payments received, THEN total all payment amounts specified in all received payments	
Step I.6: Add all received amounts to the last calculated Available Balance	
Step I.7: Store & Forward (revised) Available Balance to Filter Process	

FIG. 9E1





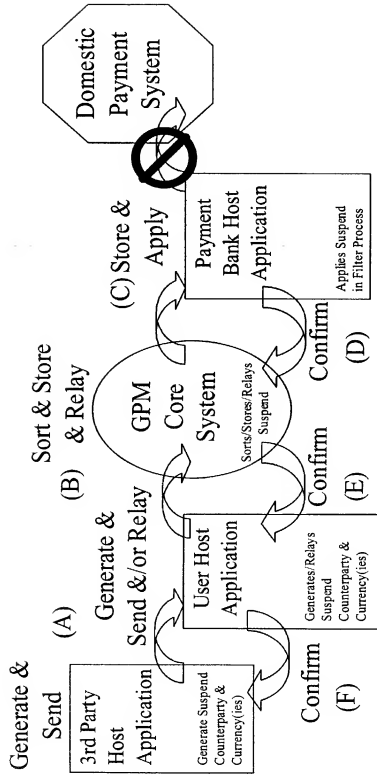


FIG. 9F1

# Suspend Instruction Fields

Status	Tag	Field Name	Content/Options	No
M	52a	USER	4a2a2b[3b]	1
O	50	THIRD PARTY (Ordering Customer)	4a2a2b[3b]	2
M	53a	PAYMENT BANK (Sender's Correspondent)	4a2a2b[3b]	3
---	---	---	---	---
M	59	COUNTERPARTY (Beneficiary Customer)	4a2a2b[3b]	4
---	---	---	---	---
M	<XX>	SUSPEND INSTRUCTION	7a	5

**FIELD 52a - USER**  
**Definition:** The Unique Identifier (UID) of the User institution initiating the instruction on behalf of itself or a Third Party.  
**Format:** 4a2a2b[3b]

**FIELD 50 - THIRD PARTY**  
**Definition:** The UID of the Third Party initiating the instruction to the User.  
**Format:** 4a2a2b[3b]

**FIELD 53a - PAYMENT BANK**  
**Definition:** The BIC code of the Payment Bank  
**Format:** 4a2a2b[3b]

**FIELD 59 - COUNTERPARTY**  
**Definition:** The UID of the Counterparty/Payee on outgoing payments instructions.  
**Format:** 4a2a2b[3b]  
 The message structure allows for multiple Counterparties to be listed, as many Users and Third Parties will want to aggregate affiliated market trading entities as a single, "synthetic counterparty" for payments risk management purposes.

**FIELD XX - SUSPEND INSTRUCTION**  
**Definition:** Suspends payments in Filter Process  
**Format:** 7a (e.g., "suspend")

FIG. 9F2

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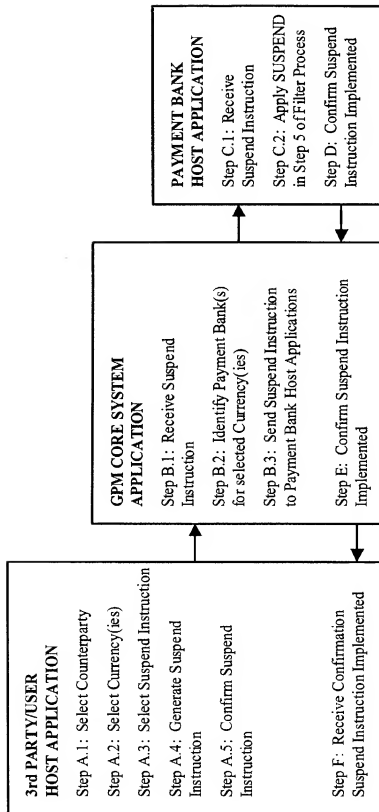


FIG. 9F3

GPM Risk Reduction	
	• Clear limits on Payment Risk and Liquidity Risk
	• Effective elimination of Systemic Risk
	• No disruption to existing payment mechanisms
	• Unilateral choice of Risk Parameters and GPM implementation with counterparty

FIG. 10A

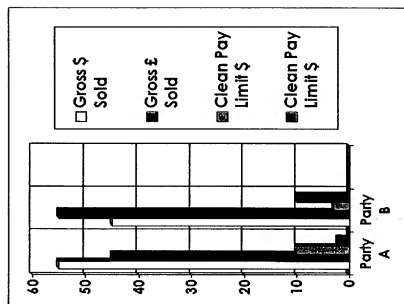


FIG. 10B

